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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HARVEY, DIONNE

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/899,197

Applicant(s)

GESKUS, MIKE

Examiner

Dionne N Harvey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 2,4,9,11,15 and 17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-8,10,12-14,16 and 18-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “damper grids” of claims 3,10 and 16; the means by which the transporting means are “attachable or attached” as recited in claims 5 and 12; and the “sound delaying filter” of claim 6,13 and 19, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims **14,16,18 and 19** are rejected under 35 U.S.C. 102(e) as being anticipated by **Killion (US 6,151,399)**.

Regarding claim 14, shown in **figures 12 and 13**, Killion teaches the assembly comprising: a microphone having at least two sound inlets (**319,320**); and transporting means **85,86** attached to the microphone (**303,305**) and being adapted to transport sound from predetermined positions to a respective sound inlet, the transporting means being shown in **figure 4A** is hollow and at least substantially rigid .

Regarding claim 16, shown in **figure 12** and discussed in **column 11, lines 32-36**, Killion further teaches a damper grid (**349**) placed on an inner surface of the means for transporting sound to the inlet, which is acting as a sound passage for front volume.

Regarding claim 18, shown in **figure 12**, Killion teaches that the transporting means (**303,305**) are adapted to abut or engage an element defining the surface part (**313**) having sound inlet holes (**343,345,347**), the transporting means (**303,305**) abutting or engaging the element at sound inlet holes thereof.

Regarding claim 19, in **column 12, lines 25-29**, Killion teaches that at least one of the transporting means comprises an acoustical sound delaying filter.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims **1,3,5-8,10,12,13 and 20-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Killion (US 6,151,399)**.

Regarding claims 1 and 8, in **figure 4A** and **figures 11-15**, Killion teaches a directional microphone comprising: a surface part **(80)** having at least two inlet holes for sound **(83,84)**; more clearly shown in **figure 12**, a microphone **(315)** having at least two sound inlets **(319,320)**; more clearly shown in **figure 4A**, a hollow at least substantially rigid means **(85,86)** for transporting sound from each inlet hole to a respective sound inlet **(also, see elements 342 and 344 in figure 14)**;

Killion does not specifically teach that the inner diameters of the hollow transporting means are dimensioned in such a way that the frequency response of the transporting means are optimized. However, in **column 7, lines 19-25**, Killion teaches that the sum of the volumes in tubes **85,86** i.e., the means for transporting sound **85,86**, in combination with other variables, is selected so as to provide the correct time delay for the microphone. Since Killion recognizes that the tube volume directly effects the time delay for the microphone, it would have been obvious for one of ordinary skill in the art at the time of the invention to construct the hollow transporting means, paying special attention to it's internal dimensions, so as to provide a desired frequency response and polar plot for the microphone cartridge.

Regarding claims 3 and 10, shown in **figure 12** and discussed in **column 11, lines 32-36**, Killion further teaches a damper grid **(349)** placed on an inner surface of the means for transporting sound to the inlet, which is acting as a sound passage for front volume.

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Regarding claims 5 and 12, in **column 10, lines 29-31**, Killion teaches that the transporting means **(303,305)** are attachable or attached to the microphone via element "309".

Regarding claims 6 and 13, in **column 12, lines 25-29**, Killion teaches that at least one of the transporting means comprises an acoustical sound delaying filter.

Regarding claim 7, Killion teaches that the assembly is for use in a hearing aid.

Regarding claim 20, in **column 7, lines 54-55**, Killion teaches that the delay of the system at least substantially corresponds to a distance between two microphones. Killion does not clearly teach that the sound delay corresponds to the distance between two predetermined positions divided by the velocity of sound in air at sea level. However, it is well known in the art to use "sea level" measurements, as this is representative of standard temperature and pressure. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to calibrate said device by said standard, according to which the device may be altered to accommodate other users.

Regarding claim 21, Killion does not clearly teach that the sound-delaying filter is adapted to provide a sound delay corresponding to 0.33-0.57 times a distance between two inlet holes in the surface part divided by the speed of sound. However, Killion does not restrict to any specific time delay for the system. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to change the delay time dependent upon the desired frequency response for the system.

4. Claims **22-24** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Killion (US 6,151,399)** in view of **Macaluso (US 6,160,896)**.

Regarding claims 22 and 23, in **figure 4A**, Killion teaches a directional microphone assembly, comprising: a surface part **80** having at least two inlet holes **83,84** for sound; a microphone **315** having at least two sound inlets **319,320**; and means for transporting sound **85,86** from each inlet hole to a respective sound inlet, the transporting means are hollow and at least substantially rigid.

Killion does not clearly teach that the diameter of the at least two inlet holes for sound are dimensioned according to a required directionality. In **column 1, lines 10-23**, Macaluso teaches that it is well known in the art to dimension the diameters **106** of sound inlet holes such that the inlet sizes are optimized according to the acoustic environment in which the microphone assembly will be used. In **figures 1 and 2**, and discussed in **column 2, lines 18-23**, Macaluso teaches a microphone assembly wherein a plurality of variously dimensioned inlets are provided and chosen according to the requirements of the acoustic environment. It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Killion and Macaluso, thereby constructing the inlet holes of the Killion device such that the diameters of said inlet holes provide optimized audio shaping.

Regarding claim 24, shown in **figures 12 and 13**, Killion teaches the assembly comprising: a microphone having at least two sound inlets (**319,320**); and transporting means **85,86** attached to the microphone (**303,305**) and being adapted to transport

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sound from predetermined positions to a respective sound inlet, the transporting means being shown in **figure 4A** as hollow and at least substantially rigid .

Response to Arguments

5. Applicant's arguments filed 9/15/04 have been fully considered but they are not persuasive.

a. Regarding the Applicant's respectful submission that the objected to features in the "Drawings" portion of the Official Rejection are exemplary embodiments and should not be required in the figures: The drawings must show every feature of the invention specified in the claims.

b. Regarding the Applicant's argument that "the Examiner admits that Killion does not specifically teach that the inner diameter of the transporting means is dimensioned in such a way that the frequency response of the transporting means is optimized": The applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

c. Regarding the Applicant's argument that "Killion does not clearly teach that the diameter of the at least two inlet holes for sound are dimensioned according to a required directionality": The applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne N Harvey whose telephone number is 703-305-1111. The examiner can normally be reached on 9-6:30 M-F and alternating Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 703-305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dionne Harvey


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